

Amendments to the Claims:

The following claims will replace all prior versions of the claims in this application:

1. (Currently Amended) A digital radio broadcast system for processing over the air transmissions of data content, said digital radio broadcast system comprising:

a gateway, the gateway comprising a processing system and a memory coupled to the processing system;

said processing system comprising:

a network inbound queue for the reception of data content and instructions from a content provider;

a scheduler for processing said instructions from the content provider to determine broadcast times and schedule for said data content to be received by digital radio broadcast receivers of users;

an encoder for encoding said data content for digital radio broadcast transmission; and

an addressing module for processing said instructions from the content provider for extracting addressing information that identifies one or more digital radio broadcast receivers for receiving said over the air transmissions of data content; and

~~an outbound queue for storing said encoded data content,~~

the digital radio broadcast system processing the data content to be pushed to the digital radio broadcast receivers of the users via digital radio broadcast transmission without user-initiated requests for the data content.

2. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 1, wherein said gateway further comprises a device profile database, said device profile database holding profiles associated with IBOC enabled consumer devices, and each of said profiles defining one or more specific data content formats for said broadcast transmission via said outbound queue to one or more clients.

3. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 2, wherein said instructions further

comprise a request for identifying said one or more specific data content formats associated with one or more specific clients.

4. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 1, wherein said gateway further comprises an identification (ID) processor for extracting a unique ID associated with a sender of said instructions, assigning a unique ID associated with Push transmissions, and storing said unique ID associated with the sender of said instructions and said unique ID associated with Push transmissions.

5. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 1, wherein said gateway further comprises an authenticator for authenticating a sender of said instructions.

6. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 4, comprising a network outbound queue, said network outbound queue transmitting data content to said sender of said instructions.

7. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 6, wherein said digital radio broadcast transmission is an in-band on-channel (IBOC) digital radio broadcast transmission.

8. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 1, wherein said gateway further comprises a bandwidth module for bandwidth management, said bandwidth module maintaining queues and prioritizing flows per quality of service (QoS) traffic attributes while managing resources.

9. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 8, wherein said queues comprise an active queue and a passive queue, said active queue storing data content currently being transmitted and said passive queue storing pushed and pulled data content.

10. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 1, wherein said gateway further comprises a cache for holding said data content to be broadcast.

11. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 1, wherein said instructions comprise precompiled binary data for transmission.

12. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 1, wherein said scheduler further processes information defining various time zones for broadcasting said encoded data content.

13. (Currently Amended) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 1, wherein said ~~instructions include~~ addressing information includes a unique identifier, said identifier used in targeting said transmitted data content to a specific user agent.

14. (Previously Presented) A gateway digital radio broadcast system for scheduling processing over the air transmissions of data content, as per claim 13, wherein said identifier is an URI or a numeric value.

15. (Canceled)

16. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 1, wherein said encoder is a Turbo Broadcast Layer (TBL) encoder.

17. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 1, wherein said gateway communicates to external networks via any of the following protocols: point-to-point protocol (PPP), hypertext transfer protocol (HTTP), or wireless access protocol.

18. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 1, wherein said data content is in any of the following formats: binary, plain text, HTML, XML, or WML.

19. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 1, wherein said gateway comprises a timer for tracking a predefined timeout for which transmission of data content occurs.

20. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 1, wherein said gateway is networked for synchronized scheduling with one or more similar gateways.

21. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 1, wherein said instructions further include any of the following: time at which transmission is to commence, time at which transmission is to cease, or rate at which data content to be transmitted needs to be repeated.

22. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 1, wherein said gateway receives data content over a network.

23. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 22, wherein said network comprises any of the following: local area network, wide area network, wireless network, or Internet.

24. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 1, wherein said gateway further comprises a network database identifying other databases from which information can be received.

25. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 1, wherein said encoded data content is in a digital broadcasting format suitable for reception via a digital consumer radio receiver.

26. (Currently Amended) A method processing over the air transmissions using a digital radio broadcast system comprising a gateway, said method comprising the steps of:
receiving at the gateway of the digital radio broadcast system data content and instructions from a content provider, the gateway comprising a processing system;
authenticating said content provider;
processing said instructions from the content provider to determine broadcast times for said data content to be received by a digital radio broadcast receivers of users and to determine addressing information that identifies one or more digital radio broadcast receivers for receiving over the air transmissions, the digital radio broadcast system processing the data content to be pushed to the digital radio broadcast receivers of the users via digital radio broadcast transmission without user-initiated requests for the data content;
encoding said data content for digital radio broadcast transmission using said processing system; and
storing said encoded data content at a memory of the gateway.

27. (Previously Presented) A method for processing over the air transmissions using a digital radio broadcast system comprising a gateway, as per claim 26, wherein said method further comprises the step of accessing a subscription profile database to identify one or more specific data content formats associated with one or more clients.

28. (Previously Presented) A method for processing over the air transmissions using a digital radio broadcast system comprising a gateway, as per claim 27, wherein said instructions further comprise a request for identifying said one or more specific data content formats associated with one or more specific clients.

29. (Previously Presented) A method for processing over the air transmissions using a digital radio broadcast system comprising a gateway, as per claim 26, wherein said encoded data content is in a digital broadcasting format suitable for reception via a digital consumer radio receiver.

30. (Previously Presented) A method for processing over the air transmissions using a digital radio broadcast system comprising a gateway, as per claim 26, wherein said

method further comprises the step of maintaining a cache for holding said encoded data content for transmission.

31. (Currently Amended) A method for processing over the air transmissions using a digital radio broadcast system comprising a gateway, as per claim 26, wherein said ~~instructions comprise~~ addressing information comprises a unique identifier, said identifier used in targeting encoded data to a specific client.

32. (Previously Presented) A method for processing over the air transmissions using a digital radio broadcast system comprising a gateway, as per claim 31, wherein said identifier is an URI or a numeric value.

33. (Previously Presented) A method for processing over the air transmissions using a digital radio broadcast system comprising a gateway, as per claim 26, wherein said instructions comprise information defining various time zones for broadcasting encoded data content.

34. (Previously Presented) A method for processing over the air transmissions using a digital radio broadcast system comprising a gateway, as per claim 26, wherein said method further comprises the step of converting said data content into a specific format.

35. (Previously Presented) A method for processing over the air transmissions using a digital radio broadcast system comprising a gateway, as per claim 34, wherein said specific format is any of the following: plain text, binary data, HTML, WML, or XML.

36. (Previously Presented) A method for processing over the air transmissions using a digital radio broadcast system comprising a gateway, as per claim 26, wherein said network comprises any of the following: local area network (LAN), wide area network (WAN), wireless networks, HFC Network, LMDS satellite network, or the Internet.

37. (Canceled)

38. (Canceled)

39. (Currently Amended) An article of manufacture comprising a computer readable storage medium having computer readable program code embodied therein, for processing over the air transmissions using a digital radio broadcast system comprising a gateway, the computer readable program code causing the digital radio broadcast system to:

receive at the gateway data content and instructions from a content provider;

authenticate said content provider;

process said instructions from the content provider to determine broadcast times for said data content to be received by digital radio broadcast receivers of users, the broadcast times being determined based upon said instructions from the content provider, and to determine addressing information that identifies one or more digital radio broadcast receivers for receiving over the air transmissions, the computer readable program code causing said digital radio broadcast system processing said data content to be pushed to the digital radio broadcast receivers of said users via digital radio broadcast transmission without user-initiated requests for said data content;

encode said data content for digital radio broadcast transmission, and

store said encoded data content.

40. (Previously Presented) An article of manufacture comprising a computer readable storage medium having computer readable program code embodied therein for processing over the air transmissions using a digital radio broadcast system comprising a gateway, as per claim 39, wherein said article further comprises computer readable program code for causing the digital radio broadcast system to encode said data content in a digital broadcasting format suitable for reception via a digital consumer radio receiver.

41-64. (Canceled)

65. (Previously Presented) A method for processing over the air transmissions using a digital radio broadcast system comprising a gateway, as per claim 26, wherein said method further comprises transmitting said encoded data via IBOC radio broadcast transmission to clients based upon said broadcast times and said addressing information.

66. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content according to claim 1, further comprising a content provider center configured to communicate with said gateway.

67. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 66, wherein said gateway further comprises a subscription client device profile database, said subscription client device profile database holding profiles associated with said clients, and each of said profiles defining one or more specific data content formats for said broadcast transmissions via said outbound queue to one or more consumer client devices.

68. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 67, wherein said instructions further comprise a request for identifying said one or more specific data content formats associated with one or more specific clients.

69. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 66, wherein said gateway further comprises identification (ID) processor for extracting a unique ID associated with a sender of said instructions, assigning a unique ID associated with Push transmissions, and storing said unique ID associated with the sender of said instructions and said unique ID associated with Push transmissions.

70. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 69, wherein said gateway further comprises an authenticator for authenticating a sender of said instructions.

71. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 69, further comprising a network outbound queue, said network outbound queue transmitting data content to said sender of said instructions.

72. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 71, wherein said digital radio broadcast transmission is an in-band on-channel (IBOC) digital radio broadcast transmission.

73. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 66, wherein said gateway further comprises a bandwidth module for bandwidth management, said bandwidth module maintaining queues and prioritizing flows per quality of service (QoS) traffic attributes while managing resources.

74. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 73, wherein said queues comprise an active queue and a passive queue, said active queue storing data content currently being transmitted and said passive queue storing pushed and pulled data content.

75. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 66, wherein said gateway further comprises a cache for holding said data content to be broadcast.

76. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 66, wherein said instructions comprise precompiled binary data for transmission.

77. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 66, wherein said scheduler further processes information defining various time zones for broadcasting said encoded data content.

78. (Currently Amended) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 66, wherein said ~~instructions include~~ addressing information includes a unique identifier, said identifier used in targeting said transmitted data content to a specific user agent.

79. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 78, wherein said identifier is an URI or a numeric value.

80. (Canceled)

81. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 66, wherein said encoder is a Turbo Broadcast Layer (TBL) encoder.

82. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 66, wherein said gateway communicates to external networks via any of the following protocols: point-to-point protocol (PPP), hypertext transfer protocol (HTTP), wireless access protocol, satellite networks, or wireless access protocol.

83. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 66, wherein said data content is in one of the following formats: binary, plain text, HTML, XML, or WML.

84. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 66, wherein said gateway comprises a timer for tracking a predefined timeout for which transmission of data content occurs.

85. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 66, wherein said gateway is networked for synchronized scheduling with one or more similar gateways.

86. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 66, wherein said instructions further include any of the following: time at which transmission is to commence, time at which transmission is to cease, or rate at which data content to be transmitted needs to be repeated.

87. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 66, wherein said gateway receives data content over a network and said network comprises any of the following: local area network, wide area network, wireless network, HFC networks or Internet.

88. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 66, wherein said gateway further comprises a network database identifying other databases from which information can be received.

89. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, as per claim 66, wherein said encoded data content is in a digital broadcasting format suitable for reception via a digital consumer radio receiver.

90. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content according to claim 1, the digital radio broadcast system comprising an exciter for receiving the encoded data content from the gateway and for broadcasting the encoded data content over the air via the digital radio broadcast transmission.

91. (Previously Presented) A method for processing over the air transmissions using a digital radio broadcast system comprising the gateway according to claim 26, comprising broadcasting the encoded data content over the air via the digital radio broadcast transmission using an exciter.

92. (Previously Presented) An article of manufacture comprising a computer readable storage medium having computer readable program code embodied therein for processing over the air transmissions using the digital radio broadcast system comprising the gateway according to claim 39, wherein said article further comprises computer readable program code for causing the digital radio broadcast system to broadcast the encoded data content over the air via the digital radio broadcast transmission using an exciter.

93. (Previously Presented) A digital radio broadcast system for processing over the air transmissions of data content, comprising:

a gateway for receiving data content and instructions from a content provider, the gateway comprising a processing system and a memory coupled to the processing system, the gateway processing the instructions from the content provider to determine broadcast times and schedule for the data content, the gateway encoding the data content for digital radio broadcast transmission to digital radio broadcast receivers of users; and

an exciter for receiving the encoded data content from the gateway and for broadcasting the data content over the air via digital radio broadcast transmission,

said digital radio broadcast system pushing said data content to the digital radio broadcast receivers of said users via digital radio broadcast transmission without user-initiated requests for said data content.